Year 10 Long Term Scheme of Learning 2023-24

Combined Science – Higher Tier

Date (w/b)	Exams	Biology	Chemistry	Physics
4/9/23		**B2 Organisation** • B2.3 Plant organs and tissues • B2.3 Plant transport • B1.3 Active Transport **B4 Photosynthesis** • B4.1 Photosynthesis • B4.1 Rate of Photosynthesis • **B4.1 Required Practical 5 – Effect of Light on Photosynthesis**	**C2 Structure, Bonding, & the Properties of Matter** ***Key ideas:*** • States of matter • Chemical bond – Ionic, covalent and metallic • Properties of ionic compounds • Properties of small molecules	**P1 – Energy Stores & Transfers** • P1.1 – Changes in energy stores • P1.2 – Conservation of energy • P1.3 – Energy & Work • P1.4 – Gravitational Potential Energy • P1.5 – Kinetic & Elastic energy • P1.6 – Energy dissipation • P1.7 – Energy & efficiency • P1.8 – Electrical appliances • P1.9 – Electrical power
11/9/23				
18/9/23				
25/9/23				
2/10/23				
9/10/23				
16/10/23				
30/10/23		**B4 Photosynthesis** • B4.1 Limiting factors • B4.1 Use of Glucose **B2 Organisation** • B2.2 Non-communicable disease • B2.2 Coronary Heart Disease +treatment • B2.2 Cancer	**C2 Structure, Bonding, & the Properties of Matter** ***Key ideas:*** • Properties of giant covalent compounds eg diamond & graphite • Properties of metals and alloys **C4 Chemical Reactions – reactions of acids** • pH and neutralisation reactions. • **Required Practical 8 – Making Soluble Salts** **C4'Chemical Reactions' – electrolysis** ***Key ideas:*** • Ionic compounds can be split into elements when molten or in solution using electricity • Aluminium extraction using electrolysis	**P2 – Energy transfer by heating** • P2.1 - Energy transfer by conduction • P2.2 - Infrared radiation • P2.3 – More about IR radiation • P2.4 – Specific Heat Capacity • P2.4 – Required practical • P2.5 – Heating & Insulating Buildings **P3 – Energy resources** • P3.1 – Energy demands • P3.2 – P3.3 – Energy resources • P3.4 – P3.5 – Environment & Issues
6/11/23				
13/11/23				
20/11/23				
27/11/23				
4/12/23				
11/12/23				

Year 10 Long Term Scheme of Learning 2023-24

Combined Science – Higher Tier

1/1/24		**Assessment Window 1 Revision** **B3 Infection and response** • (B1.1) Bacterial cells • B3.1 Bacteria and Viral diseases • B3.1 Fungal and Protista diseases	**Chemistry Assessment** **C4'Chemical Reactions' – electrolysis** ***Key ideas:*** **Required Practical 9 –'Electrolysis of aqueous solutions'** **C5 'Energy Changes'** ***Key ideas:*** • Endothermic & exothermic reactions **Required Practical – 10 'Temperature changes'**	**P6 – Molecules & Matter** • P6.1 – Density • P6.1 – Required practical • P6.2 – States of matter • P6.3 – Changes of state • P6.4 - Internal energy • P6.5 – Specific latent heat • P6.6 – Gas pressure & temperature
8/1/24				
15/1/24				
22/1/24				
29/1/24				
5/2/24				
12/2/24				
26/2/24		**B3 Infection and response** • B3.1 Human defence systems • B3.1 Vaccination • B3.1 Antibiotics, Painkillers • B3.1 Discovery and development of drugs	**C5 'Energy Changes'** ***Key ideas:*** • Reaction profiles & bond energy **C3 'Quantitative Chemistry'** ***Key ideas:*** • Balancing equations • Relative formula mass • Amount of substance – moles	**P7 – Radioactivity** • P7.1 – Atoms & radiation • P7.2 – Discovery of the nucleus • P7.3 – Changes in the nucleus • P7.4 – Alpha, Beta, Gamma • P7.5 – Activity & Half-life
4/3/24				
11/3/24				
18/3/24				
25/3/24				
15/4/24		**B5 Homeostasis and Response** • B5.2 Nervous system • B5.1 + B5.3 Human endocrine system • B5.3 Control of blood glucose concentration • B5.3 Hormones in human reproduction	**C3 'Quantitative Chemistry'** ***Key ideas:*** • Amount of substance – moles • Concentration of solutions **C6 'Rate & Extent of Chemical Reactions' – rate of reaction** ***Key ideas:*** • Measuring rate of reaction methods • Limiting reactants Factors affecting rates	**P8 – Forces in balance** • P8.1 – Vectors & Scalars • P8.2 – Force between objects • P8.3 – Resultant forces • P8.6 – Centre of mass • P8.8 – Parallelogram of forces • P8.9 – Resolution of forces
22/4/24				
29/4/24				
6/5/24				
13/5/24				
20/5/24				

Year 10 Long Term Scheme of Learning 2023-24

Combined Science – Higher Tier

3/6/24		**Assessment Window 2 Revision** **B5 Homeostasis and Response** • B5.3 Contraception • B5.3 Use of hormones to treat infertility (H tier) • B5.5 Negative Feedback (H tier) **B7 Ecology** • B7.2 Sampling • **B7.2 Required Practical 7 – Sampling populations**	**<u>End of Year Exams</u>** **C6 'Rate & Extent of Chemical Reactions' – rate of reaction** ***Key ideas**:* • **Required Practical 11a – Disappearing Cross** • **Required Practical 11b – Measuring a gas volume** • Graphs & tangents • Collision theory & catalysts	**P9 – Motion** • P9.1 – Distance – time graphs • P9.2 – Velocity & acceleration • P9.3 – Velocity – time graphs • P9.4 – Analysing motion graphs
10/6/24				
17/6/24				
24/6/24				
1/7/24				
8/7/24				
15/7/24				